

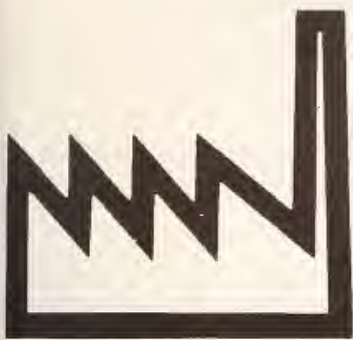
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PRELIMINARY REPORT  
INDUSTRY SERIES

# 1987 Census of Manufactures

MC87-I-32D(P)  
Issued May 1989

## CONCRETE, PLASTER, AND CUT STONE PRODUCTS

Industries 3271, 3272, 3273, 3274, 3275, and 3281

### INTRODUCTION

This report presents preliminary statistics from the 1987 Census of Manufactures for those establishments classified in the industries listed above. These data will be superseded by a more comprehensive final paperbound report. The method of data collection and use of administrative data are discussed in detail in the appendix.

All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The definitions of these industries are the same as those used in the 1987 Standard Industrial Classification (SIC) Manual.<sup>1</sup>

### INDUSTRY 3271, CONCRETE BLOCK AND BRICK

In the 1987 Census of Manufactures, Industry 3271, Concrete Block and Brick, had employment of 18.2 thousand. The employment figure was 17 percent above the 15.5 thousand reported in 1982. Compared with 1986, employment in 1987 increased 13 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$2.2 billion.

The cost of materials and services used by establishments in this industry amounted to \$1.2 billion in 1987. Data on specific materials consumed appear in table 3.

### INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.

In the 1987 Census of Manufactures, Industry 3272, Concrete Products, N.E.C., had employment of 69.9 thousand. The employment figure was 26 percent above the 55.7 thousand reported in 1982. Compared with 1986, employment in 1987 increased 17 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$5.8 billion.

The cost of materials and services used by establishments in this industry amounted to \$2.5 billion in 1987. Data on specific materials consumed appear in table 3.

### INDUSTRY 3273, READY-MIXED CONCRETE

In the 1987 Census of Manufactures, Industry 3273, Ready-Mixed Concrete, had employment of 95.5 thousand. The employment figure was 17 percent above the 81.4 thousand reported in 1982. Compared with 1986, employment in 1987 increased 17 percent. The 1986 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

The total value of shipments for establishments classified in this industry was \$12.8 million.

The cost of materials and services used by establishments in this industry amounted to \$7.2 billion in 1987. Data on specific materials consumed appear in table 3.

<sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

Address inquiries to Bureau of the Census, Industry Division, Washington, DC 20233, or call Dolores Coleman (301) 763-7304.



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## INDUSTRY 3274, LIME

In the 1987 Census of Manufactures, Industry 3274, Lime, had employment of 5.7 thousand. The employment figure was 2 percent above the 5.6 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$709.7 million.

The cost of materials and services used by establishments in this industry amounted to \$364.1 million in 1987. Data on specific materials consumed appear in table 3.

## INDUSTRY 3275, GYPSUM PRODUCTS

In the 1987 Census of Manufactures, Industry 3275, Gypsum Products, had employment of 12.0 thousand. The employment figure was 32 percent above the 9.1 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$2.7 billion.

The cost of materials and services used by establishments in this industry amounted to \$1.3 billion in 1987. Data on specific materials consumed appear in table 3.

## INDUSTRY 3281, CUT STONE AND STONE PRODUCTS

In the 1987 Census of Manufactures, Industry 3281, Cut Stone and Stone Products, had employment of 12.3 thousand. The employment figure was 17 percent above the 10.5 thousand reported in 1982.

The total value of shipments for establishments classified in this industry was \$822.6 million.

The cost of materials and services used by establishments in this industry amounted to \$377.2 million in 1987. Data on specific materials consumed appear in table 3.

## ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables in this publication:

-	Represents zero.
(D)	Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA)	Not available.
(NC)	Not comparable.
(S)	Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X)	Not applicable.
(Z)	Less than half the unit shown.
do	Ditto.
n.e.c.	Not elsewhere classified.
n.s.k.	Not specified by kind.
pt.	Part.
r	Revised.
SIC	Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

## CONTACTS FOR DATA USERS

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Census/ASM		
Durables	Kenneth Hansen	(301) 763-7304
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Current Industrial Reports		
Durables	Malcolm Bernhardt	(301) 763-2518
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Import/Export Publications	Foreign Trade Division	(301) 763-5140
Industry Analysis and Forecasts	International Trade Administration	(202) 377-4356



# Table 1. Historical Statistics for the Industry: 1987 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix ]

Year <sup>1</sup>	Com- panies <sup>2</sup> (no.)	All establishments <sup>3</sup>		All employees		Production workers			Value added by manufac- ture <sup>4</sup> (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expendi- tures (million dollars)	End-of- year inventories <sup>4</sup> (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Spe- cial- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 3271, CONCRETE BLOCK AND BRICK															
1987 Census	(NA)	1 088	332	18.2	404.3	10.5	23.1	211.7	1 050.3	1 166.8	2 205.9	70.4	248.0	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	16.1	337.1	9.4	20.0	173.1	922.0	1 080.1	1 989.4	570.6	222.0	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	16.0	311.0	9.5	18.8	158.2	771.9	936.9	1 689.7	572.5	203.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	16.2	297.2	9.7	18.9	148.8	746.1	894.5	1 632.2	566.4	199.4	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	15.9	282.4	9.5	17.9	141.8	731.1	858.5	1 581.9	5107.9	217.6	(NA)	(NA)
1982 Census	1 039	1 155	251	15.5	261.9	9.1	17.8	133.7	577.8	718.4	1 301.8	37.6	198.3	95	87
1981 ASM	(NA)	(NA)	(NA)	17.8	280.2	9.9	18.5	133.0	592.5	813.9	1 404.2	74.4	197.8	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	18.7	291.6	10.9	20.2	141.6	652.3	883.2	1 524.1	134.6	191.2	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	19.3	267.2	12.3	23.4	143.8	587.6	947.0	1 494.6	149.7	178.0	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	20.4	266.0	13.0	25.9	144.0	650.9	751.2	1 391.5	81.4	145.4	(NA)	(NA)
1977 Census	1 162	1 273	348	18.7	237.1	11.8	24.1	126.6	520.3	627.7	1 143.8	55.6	124.0	93	85
1976 ASM	(NA)	(NA)	(NA)	20.3	225.7	13.0	25.6	121.1	495.0	580.7	1 075.1	557.7	113.1	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	21.5	226.0	14.2	27.0	129.5	478.7	533.8	1 015.8	39.2	115.8	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	22.6	212.4	14.7	28.0	124.5	493.4	527.8	1 006.5	545.9	97.1	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	22.3	202.6	14.9	32.1	118.0	479.2	464.8	944.4	49.8	93.4	(NA)	(NA)
1972 Census	1 300	1 388	416	22.8	196.0	15.2	31.5	115.0	438.5	421.8	855.7	46.2	88.6	93	85
INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.															
1987 Census	(NA)	3 106	912	69.9	1 454.4	53.0	112.1	984.0	3 282.8	2 515.0	5 772.0	282.5	680.8	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	59.7	1 181.3	46.1	93.9	798.7	2 736.7	2 227.6	4 931.2	137.4	529.7	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	57.4	1 109.6	43.9	89.9	754.8	2 540.7	1 990.5	4 509.8	5212.2	526.0	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	57.4	1 061.1	43.2	87.9	704.9	2 276.8	1 991.4	4 194.2	145.1	525.7	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	54.2	960.0	41.3	83.8	638.0	2 099.9	1 666.9	3 719.2	5112.9	482.8	(NA)	(NA)
1982 Census	2 750	3 173	729	55.7	961.7	42.5	84.8	649.2	2 006.4	1 627.7	3 649.2	127.7	443.3	97	95
1981 ASM	(NA)	(NA)	(NA)	61.7	975.3	47.4	96.8	656.7	2 066.7	1 788.8	3 839.3	197.0	445.2	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	62.2	909.1	47.4	96.7	607.7	2 043.4	1 708.2	3 709.4	235.1	435.7	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	68.0	914.2	52.4	106.9	631.5	2 033.2	1 687.4	3 674.7	172.3	431.9	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	63.6	808.9	49.7	99.5	555.4	1 740.9	1 478.5	3 193.9	142.2	435.7	(NA)	(NA)
1977 Census	3 475	3 916	862	61.7	734.9	48.1	96.0	494.5	1 529.3	1 234.1	2 736.2	134.4	389.7	96	95
1976 ASM	(NA)	(NA)	(NA)	56.9	644.1	44.4	91.9	435.3	1 396.7	1 044.5	2 429.9	107.1	332.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	58.0	612.0	44.4	90.6	418.5	1 392.1	1 013.5	2 400.7	98.4	334.4	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	62.0	617.5	49.5	103.6	438.5	1 307.9	1 008.1	2 287.4	119.6	347.8	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	71.4	642.0	55.8	114.9	450.9	1 303.0	861.1	2 156.0	86.7	304.2	(NA)	(NA)
1972 Census	3 199	3 595	923	67.7	570.2	53.6	109.9	401.0	1 190.1	786.4	1 961.4	96.2	260.3	96	95
INDUSTRY 3273, READY-MIXED CONCRETE															
1987 Census	(NA)	5 237	1 512	95.5	2 259.6	72.8	152.6	1 618.7	5 650.0	7 157.0	12 789.0	474.5	433.1	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	81.6	1 874.0	62.9	133.3	1 343.5	4 553.0	6 058.0	10 614.3	378.0	363.8	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	83.5	1 785.7	66.2	135.0	1 292.6	4 249.0	5 843.2	10 087.9	459.4	358.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	83.3	1 728.8	65.2	133.8	1 240.7	4 041.8	5 658.6	9 675.6	398.5	355.4	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	83.8	1 602.0	63.1	126.6	1 092.9	3 635.0	5 394.0	9 025.7	5284.5	378.9	(NA)	(NA)
1982 Census	4 161	5 379	1 239	81.4	1 475.3	60.4	118.5	1 005.3	3 282.1	4 877.6	8 163.3	282.4	333.5	95	98
1981 ASM	(NA)	(NA)	(NA)	85.8	1 603.5	69.3	137.2	1 089.4	3 641.6	5 326.3	8 983.2	393.9	347.6	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	92.0	1 568.8	71.2	141.2	1 032.5	3 632.5	5 195.1	8 810.1	438.1	338.2	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	98.0	1 541.6	76.0	151.2	1 010.8	3 744.1	5 235.3	8 962.2	479.2	271.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	92.5	1 368.6	67.4	135.8	884.7	3 281.7	4 477.7	7 756.3	523.2	259.6	(NA)	(NA)
1977 Census	4 317	5 433	1 357	87.9	1 175.8	62.0	125.3	766.6	2 693.2	3 757.0	6 440.6	353.1	231.5	93	98
1976 ASM	(NA)	(NA)	(NA)	81.8	997.0	58.6	113.4	657.3	2 246.2	3 069.1	5 311.7	247.7	181.8	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	83.2	944.3	59.0	114.0	618.8	2 088.3	2 890.0	4 974.2	236.5	184.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	87.2	935.4	61.7	122.1	610.5	2 101.8	2 812.2	4 903.3	228.5	143.5	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	86.4	868.6	57.1	113.1	540.1	1 888.9	2 480.4	4 366.2	254.7	123.4	(NA)	(NA)
1972 Census	3 978	4 915	1 328	85.7	809.3	56.9	114.4	497.4	1 756.7	2 291.8	4 050.9	247.8	116.1	93	98
INDUSTRY 3274, LIME															
1987 Census	(NA)	81	56	5.7	141.7	4.5	9.4	103.5	344.9	364.1	709.7	32.9	72.1	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	5.8	136.5	4.6	9.3	101.7	318.0	351.8	670.9	538.8	72.2	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	5.8	133.2	4.6	9.6	100.4	316.5	359.2	675.8	570.1	75.7	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	5.6	121.1	4.5	9.2	91.0	295.1	347.6	642.3	572.9	80.2	(NA)	(NA)
1983 ASM	(NA)	(NA)	(NA)	5.2	109.9	4.1	8.4	81.1	250.6	305.6	557.7	20.9	72.9	(NA)	(NA)
1982 Census	59	87	59	5.6	108.6	4.4	8.5	79.4	245.0	298.2	543.2	36.0	66.4	89	92
1981 ASM	(NA)	(NA)	(NA)	6.5	116.5	5.1	10.2	85.5	298.3	359.0	653.5	56.7	62.1	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	6.4	99.9	5.0	10.2	76.2	282.9	316.9	598.8	69.7	51.5	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	6.6	98.4	5.3	11.1	75.9	284.1	322.4	604.2	38.3	53.3	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	6.5	97.0	5.4	11.2	74.4	260.2	317.7	577.3	62.7	54.2	(NA)	(NA)
1977 Census	64	94	63	5.9	75.4	4.8	9.8	59.4	218.2	264.8	484.2	29.7	47.2	92	92
1976 ASM	(NA)	(NA)	(NA)	6.4	75.7	5.2	10.9	56.1	225.9	231.6	455.5	32.4	44.3	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	6.7	72.1	5.5	11.1	53.2	208.8	208.1	414.2	38.8	41.7	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	6.3	60.6	5.3	11.2	46.9	168.2	167.8	334.3	30.1	33.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	5.5	50.5	4.6	9.7	39.0	132.2	117.3	251.7	23.0	21.5	(NA)	(NA)
1972 Census	69	103	69	5.7	50.0	4.8	10.4	38.9	129.3	109.0	238.1	39.4	18.8	89	92
INDUSTRY 3275, GYPSUM PRODUCTS															
1987 Census	(NA)	149	96	12.0	321.4	9.5	22.2	240.7	1 332.1	1 341.7	2 665.9	87.3	130.7	(NA)	(NA)
1986 ASM	(NA)	(NA)	(NA)	11.1	290.6	8.8	20.6	219.2	1 392.4	1 221.8	2 619.0	139.3	121.5	(NA)	(NA)
1985 ASM	(NA)	(NA)	(NA)	10.6	262.6	8.4	19.2	199.3	1 249.5	1 263.0	2 511.7	107.7	121.1	(NA)	(NA)
1984 ASM	(NA)	(NA)	(NA)	10.3	241.0	8.2	18.5	185.4	1 009.3	1 173.5	2 176.4	59.4	124.		

**Table 1. Historical Statistics for the Industry: 1987 and Earlier Years—Con.**

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendix.]

Year <sup>1</sup>	Companies <sup>2</sup> (no.)	All establishments <sup>3</sup>		All employees		Production workers			Value added by manufac- ture <sup>4</sup> (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expen- ditures (million dollars)	End-of- year inven- tonies <sup>4</sup> (million dollars)	Ratios	
		Total (no.)	With 20 employ- ees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Special- ization (per- cent)	Cover- age (per- cent)
INDUSTRY 3275, GYPSUM PRODUCTS—Con.															
1977 Census ----	58	128	81	9.5	143.6	7.6	17.3	111.5	429.6	565.6	1 000.0	31.9	72.4	96	98
1976 ASM -----	(NA)	(NA)	(NA)	8.5	119.7	6.7	15.9	91.6	296.6	451.4	747.6	21.2	63.7	(NA)	(NA)
1975 ASM -----	(NA)	(NA)	(NA)	8.7	103.5	6.7	14.5	76.5	250.6	349.1	600.6	20.2	62.9	(NA)	(NA)
1974 ASM -----	(NA)	(NA)	(NA)	10.5	117.8	8.2	18.4	88.0	315.6	401.7	710.6	35.6	72.3	(NA)	(NA)
1973 ASM -----	(NA)	(NA)	(NA)	11.2	124.1	9.0	21.2	95.8	356.2	360.4	716.8	25.9	55.6	(NA)	(NA)
1972 Census -----	44	114	84	11.2	115.5	9.0	21.1	88.7	325.1	317.5	640.3	23.3	52.2	95	99
INDUSTRY 3281, CUT STONE AND STONE PRODUCTS															
1987 Census ----	(NA)	730	162	12.3	238.1	9.8	19.5	170.4	441.0	377.2	822.6	29.7	103.1	(NA)	(NA)
1986 ASM -----	(NA)	(NA)	(NA)	11.2	198.9	8.8	17.6	147.5	375.5	317.5	683.0	33.2	79.5	(NA)	(NA)
1985 ASM -----	(NA)	(NA)	(NA)	11.2	199.5	8.9	17.4	148.9	352.8	317.0	674.3	30.5	74.5	(NA)	(NA)
1984 ASM -----	(NA)	(NA)	(NA)	11.3	187.3	8.9	16.7	139.4	344.3	275.2	626.3	27.9	71.5	(NA)	(NA)
1983 ASM -----	(NA)	(NA)	(NA)	10.2	158.3	8.5	16.3	120.7	302.1	266.7	570.0	7.0	71.3	(NA)	(NA)
1982 Census ----	698	711	132	10.5	155.9	8.5	16.5	118.5	295.2	259.0	555.4	23.9	70.0	97	98
1981 ASM -----	(NA)	(NA)	(NA)	12.0	157.0	10.1	20.5	121.3	292.7	236.6	528.7	16.6	68.2	(NA)	(NA)
1980 ASM -----	(NA)	(NA)	(NA)	13.0	155.8	10.9	22.0	118.8	289.6	221.1	504.0	11.5	67.9	(NA)	(NA)
1979 ASM -----	(NA)	(NA)	(NA)	13.3	147.0	11.2	22.4	113.1	283.9	201.5	479.8	13.1	58.2	(NA)	(NA)
1978 ASM -----	(NA)	(NA)	(NA)	13.7	154.4	11.3	23.2	118.4	300.8	204.2	505.9	23.2	60.6	(NA)	(NA)
1977 Census ----	963	993	164	12.7	131.5	10.6	21.4	98.8	238.2	157.5	393.0	10.4	53.8	96	95
1976 ASM -----	(NA)	(NA)	(NA)	15.2	137.0	12.7	25.5	102.3	274.4	158.7	433.4	19.7	56.5	(NA)	(NA)
1975 ASM -----	(NA)	(NA)	(NA)	14.6	121.4	12.2	23.7	93.7	233.8	147.7	375.9	7.5	57.0	(NA)	(NA)
1974 ASM -----	(NA)	(NA)	(NA)	13.7	110.4	11.8	23.3	86.9	210.9	118.4	317.9	10.7	41.8	(NA)	(NA)
1973 ASM -----	(NA)	(NA)	(NA)	14.7	108.9	12.6	24.1	84.4	196.2	119.9	316.7	9.7	40.6	(NA)	(NA)
1972 Census -----	874	908	192	15.0	109.2	12.6	24.2	84.7	191.4	117.6	304.5	12.6	40.7	96	98

Note: Establishments of single unit companies with up to 20 employees (cutoff varied by industry) were excluded from the mail portion of the census. Data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were estimated based on administrative-record information from other agencies in conjunction with industry averages. These establishments accounted for the following percent of total value of shipments: SIC 3271, 16%; SIC 3272, 18%; SIC 3273, 26%; SIC 3274, 3%; SIC 3275, 6%; and 3281, 17%.

<sup>1</sup>In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1972, see 1972 Census of Manufactures, vol. II, table 1a of the Industry chapter.

<sup>2</sup>For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

<sup>3</sup>Includes establishments with payroll at any time during year.

<sup>4</sup>Beginning with the 1982 Census of Manufactures, all respondents were requested to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior Censuses and annual surveys of manufactures in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, inventories and value added by manufacture are not comparable to prior-year data.

<sup>5</sup>Estimates for new capital expenditures have associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

**Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments <sup>1</sup>		Number of companies with shipments of \$100,000 or more	Product shipments <sup>1</sup>	
			Quantity <sup>2</sup>	Value (million dollars)		Quantity <sup>2</sup>	Value (million dollars)
<b>3271- --</b>	<b>CONCRETE BLOCK AND BRICK</b>						
	Total -----	(NA)	(X)	1 915.8	(NA)	(X)	1 173.2
32710 --	Concrete block and brick:						
32710 11	Structural block:						
	Lightweight units (units made with concrete weighing less than 105 lb per cubic foot, dry weight) (8 in. x 8 in. x 16 in. equivalent) ----- mil blocks...	(NA)	*759.0	566.7	398	**562.2	359.9
32710 15	Mediumweight units (units made with concrete weighing at least 105 lb, but less than 125 lb per cubic foot, dry weight) (8 in. x 8 in. x 16 in. equivalent) ----- do...	(NA)	(S)	237.1	174	(S)	141.3
32710 17	Normalweight units (units made with concrete weighing at least 125 lb per cubic foot, dry weight) (8 in. x 8 in. x 16 in. equivalent) ----- do...	(NA)	**1 111.0	547.5	381	**471.3	272.7
32710 18	Decorative block (such as screen block, split block, slump block, shadowal block, etc.) (block size 8 in. x 8 in. x 16 in. equivalent) ----- do...	(NA)	(S)	170.2	120	(S)	77.8
32710 51	Concrete brick ----- mil bricks...	(NA)	(S)	73.4	56	(S)	46.5
32710 00	Concrete block and brick, n.s.k., typically for establishments with 5 employees or more (see note) -----	(NA)	(X)	215.3	(NA)	(X)	220.3
32710 02	Concrete block and brick, n.s.k., typically for establishments with less than 5 employees (see note) -----	(NA)	(X)	105.6	(NA)	(X)	54.8

See footnotes at end of table.



**Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments <sup>1</sup>		Number of companies with shipments of \$100,000 or more	Product shipments <sup>1</sup>	
			Quantity <sup>2</sup>	Value (million dollars)		Quantity <sup>2</sup>	Value (million dollars)
<b>3272—</b>	<b>CONCRETE PRODUCTS, N.E.C.</b>						
	Total .....	(NA)	(X)	5 456.3	(NA)	(X)	3 503.3
32721 —	Concrete pipe .....	(NA)	(X)	1 389.4	(NA)	(X)	919.0
	Culvert pipe:						
	Reinforced:						
32721 12	36 in. or more .....	1,000 s					
	tons.....	(NA)	*1 143.8	131.5	72	**968.4	78.4
32721 14	Less than 36 in. ....	do..	*637.0	64.4	79	**772.2	59.3
32721 17	Nonreinforced .....	do..	(S)	18.0	28	(S)	9.7
	Storm sewer pipe:						
	Reinforced:						
32721 21	36 in. or more .....	1,000 s					
	tons.....	(NA)	*2 049.2	218.2	83	*1 926.5	172.7
32721 24	Less than 36 in. ....	do..	*1 787.6	155.9	83	*864.1	74.6
32721 25	Nonreinforced .....	do..	(S)	27.8	28	(S)	11.3
	Sanitary sewer pipe:						
	Reinforced:						
32721 26	24 in. or more .....	1,000 s					
	tons.....	(NA)	**966.8	111.3	59	942.8	89.5
32721 27	Less than 24 in. ....	do..	(S)	34.3	41	*302.0	26.8
32721 30	Nonreinforced .....	do..	(S)	3.2	21	(S)	10.9
	Pressure pipe:						
32721 31	Reinforced concrete pressure pipe .....	mil lin ft..	(NA)	*.5	12	*.4	17.0
32721 32	Prestressed concrete cylinder pipe .....	do..	(NA)	*1.9	7	*2.6	133.7
32721 36	Pretensioned concrete cylinder pipe .....	do..	(NA)	( <sup>3</sup> )	5	(S)	50.0
32721 39	Other pressure pipe (including reinforced concrete cylinder pipe and prestressed concrete noncylinder pipe) .....	do..	(NA)	35.4	6	(S)	34.8
32721 51	Irrigation pipe and drain tile .....	1,000 s					
	tons.....	(NA)	*245.6	14.9	25	**160.1	14.5
32721 98	Other concrete pipe (such as manholes and conduits) .....	do..	(NA)	(S)	133	(S)	117.6
32721 00	Concrete pipe, n.s.k. ....	do..	(NA)	(X)	(NA)	(X)	18.1
32722 —	Precast concrete products .....	(NA)	(X)	2 232.2	(NA)	(X)	1 349.6
	Roof and floor units:						
32722 13	Slabs and tile .....	mil sq ft..	(NA)	(S)	52	(S)	122.0
32722 17	Joists and beams .....	mil lin ft..	(NA)	(S)	24	(S)	38.9
32722 23	Architectural wall panels .....	mil sq ft..	(NA)	(S)	115	*31.1	300.1
32722 25	Piling, posts, and poles .....	mil lin ft..	(NA)	(S)	12	**1.4	15.4
32722 27	Cast stone products for architectural purposes (except architectural wall panels, such as window sills, ashlar, coping, lintels, and other trim) .....		(NA)	(X)	63	(X)	35.2
32722 28	Prefabricated building systems, primarily concrete, sold as complete units and shipped in panel or modular form (sq ft of floor area) .....	mil sq ft..	(NA)	(S)	26	(S)	25.4
32722 29	Other precast concrete construction or building products (including prefabricated housing components, reinforced columns, etc.) .....		(NA)	(X)	128	(X)	136.7
	Burial vaults and boxes:						
32722 33	Vaults .....	1,000 units..	(NA)	(S)	250	(S)	145.0
32722 35	Boxes .....	do..	(NA)	(S)	62	(S)	30.1
32722 41	Silo staves .....	do..	(NA)	(S)	26	(S)	30.0
32722 61	Septic tanks .....	do..	(NA)	(S)	159	(S)	57.8
32722 71	Dry-mixed concrete materials (including prepackaged sand, gravel and cement, mortar and cement premixes) .....	1,000 s					
	tons.....	(NA)	(S)	306.0	167	(S)	190.8
32722 98	Other precast concrete products (except construction or building products, including garden furniture, storage tanks, laundry trays, etc.) .....		(NA)	(X)	170	(X)	163.7
32722 00	Precast concrete products, n.s.k. ....		(NA)	(X)	(NA)	(X)	58.6
32723 —	Prestressed concrete products .....	(NA)	(X)	1 051.2	(NA)	(X)	741.9
32723 11	Single tees, double tees, and channels .....	mil sq ft..	(NA)	(S)	79	(S)	202.9
32723 23	Piling, bearing piles, and sheet piles .....	mil lin ft..	(NA)	(S)	46	**7.8	71.5
32723 25	Bridge beams .....	do..	(NA)	*3.3	72	**2.8	120.6
32723 27	Joists, girders, and beams (other than bridge beams) .....	do..	(NA)	(S)	57	**1.8	69.6
32723 31	Solid and hollow cored slabs and panels .....	mil sq ft..	(NA)	*61.0	97	**57.2	175.9
32723 98	Other prestressed concrete products (such as arches, columns, etc.) .....	1,000 s					
	tons.....	(NA)	(S)	91.2	60	(S)	73.7
32723 00	Prestressed concrete products, n.s.k. ....	(NA)	(X)	78.3	(NA)	(X)	27.7
32720 —	Concrete products, n.e.c., n.s.k. ....	(NA)	(X)	783.5	(NA)	(X)	493.0
32720 00	Concrete products, n.e.c., n.s.k., typically for establishments with 5 employees or more (see note) .....	(NA)	(X)	592.7	(NA)	(X)	310.9
32720 02	Concrete products, n.e.c., n.s.k., typically for establishments with less than 5 employees (see note) .....	(NA)	(X)	190.8	(NA)	(X)	182.1
<b>3273—</b>	<b>READY-MIXED CONCRETE</b>						
	Total .....	(NA)	(X)	11 631.9	(NA)	(X)	7 544.9
32730 —	Ready-mixed concrete:						
32730 00	Ready-mixed concrete .....	mil cu yd..	(NA)	(S)	2 796	**4 744.9	7 056.1
32730 02	Ready-mixed concrete, n.s.k., typically for establishments with less than 10 employees (see note) .....		(NA)	(X)	(NA)	(X)	488.8

See footnotes at end of table.

**Table 2. Product and Product Classes—Quantity and Value of Shipments by All Producers: 1987 and 1982—Con.**

[Includes quantity and value of products of this industry produced by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). Transfers of products of this industry from one establishment of a company to another establishment of the same company (interplant transfers) are also included. For further explanation, see Value of Shipments in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 product code	Product	1987			1982		
		Number of companies with shipments of \$100,000 or more	Product shipments <sup>1</sup>		Number of companies with shipments of \$100,000 or more	Product shipments <sup>1</sup>	
			Quantity <sup>2</sup>	Value (million dollars)		Quantity <sup>2</sup>	Value (million dollars)
<b>3274--</b>	<b>LIME</b>						
	Total .....	(NA)	(X)	703.1	(NA)	(X)	517.8
32740 --	Lime (including cost of shipping containers):						
32740 11	Quicklime ..... 1,000 s tons.....	(NA)	*10	348.8	40	7	326.6
32740 51	Hydrated lime ..... do..	(NA)	*1	936.2	29	1	868.8
32740 71	Dead-burned dolomite ..... do..	(NA)		630.3	8		745.9
32740 00	Lime, n.s.k., typically for establishments with 10 employees or more (see note) .....	(NA)	(X)	32.4	(NA)	(X)	3.8
32740 02	Lime, n.s.k., typically for establishments with less than 10 employees (see note) .....	(NA)	(X)	6.4	(NA)	(X)	3.3
<b>3275--</b>	<b>GYPSUM PRODUCTS</b>						
	Total .....	(NA)	(X)	2 583.1	(NA)	(X)	1 178.2
32751 --	Gypsum building materials .....	(NA)	(X)	2 073.8	(NA)	(X)	1 076.5
32751 12	Plaster building boards and laths ..... 1,000 s tons.....	(NA)	*17	443.8	24	*12	652.1
32751 13	Building plasters ..... do..	(NA)	(S)	92.0	16	(S)	71.1
32751 00	Gypsum building materials, n.s.k. ....	(NA)	(X)	115.4	(NA)	(X)	-
32752 --	Other gypsum products .....	(NA)	(X)	454.3	(NA)	(NA)	(NA)
32752 11	Industrial plasters ..... 1,000 s tons.....	(NA)	**1	147.4	11	*1	208.3
32752 21	Other gypsum products ..... do..	(NA)	(S)	308.2	(NA)	(NA)	85.8
32752 00	Other gypsum products, n.s.k. ....	(NA)	(X)	25.7	(NA)	(NA)	(NA)
32750 --	Gypsum products, n.s.k. ....	(NA)	(X)	55.0	(NA)	(X)	15.9
32750 00	Gypsum products, n.s.k., typically for establishments with 10 employees or more (see note) .....	(NA)	(X)	5.9	(NA)	(X)	5.0
32750 02	Gypsum products, n.s.k., typically for establishments with less than 10 employees (see note) .....	(NA)	(X)	49.1	(NA)	(X)	10.9
<b>3281--</b>	<b>CUT STONE AND STONE PRODUCTS</b>						
	Total .....	(NA)	(X)	791.6	(NA)	(X)	526.2
32811 --	Dressed dimension granite (including gneiss, syenite, diorite, and cut granite) .....	(NA)	(X)	404.6	(NA)	(X)	296.0
32811 13	Building stone ..... 1,000 cu ft..	(NA)	(S)	208.0	26	(S)	100.9
32811 35	Monumental stone ..... do..	(NA)	(S)	143.6	128	(S)	162.9
32811 98	Other granite products, such as paving blocks and curbing ..... do..	(NA)	(S)	47.1	20	(S)	27.0
32811 00	Dressed dimension granite (including gneiss, syenite, diorite, and cut granite), n.s.k. ....	(NA)	(X)	5.8	(NA)	(X)	5.2
32812 --	Dressed dimension limestone (including dolomite, travertine, calcareous tufa, and cut limestone) .....	(NA)	(X)	66.6	(NA)	(X)	42.9
32812 13	Building stone ..... 1,000 cu ft..	(NA)	(S)	47.4	28	**2	394.8
32812 98	Other limestone products, such as flagging ..... do..	(NA)	(S)	4.6	6	(S)	6.0
32812 00	Dressed dimension limestone (including dolomite, travertine, calcareous tufa, and cut limestone), n.s.k. ....	(NA)	(X)	14.7	(NA)	(X)	3.1
32813 --	Dressed dimension marble and other stone .....	(NA)	(X)	146.4	(NA)	(X)	96.2
32813 37	Building stone, monumental stone, and other marble products ..... 1,000 cu ft..	(NA)	(S)	80.5	45	(S)	71.3
32813 98	Other stone, such as slate (roofing, mill stock, and flagstone), sandstone, gabbro, basalt, and other dressed dimension stone products ..... do..	(NA)	(S)	50.4	24	(S)	19.6
32813 00	Dressed dimension marble and other stone, n.s.k. ....	(NA)	(X)	15.5	(NA)	(X)	5.4
32810 --	Cut stone and stone products, n.s.k. ....	(NA)	(X)	174.0	(NA)	(X)	91.1
32810 00	Cut stone and stone products, n.s.k., typically for establishments with 5 employees or more (see note) .....	(NA)	(X)	113.6	(NA)	(X)	55.9
32810 02	Cut stone and stone products, n.s.k., typically for establishments with less than 5 employees (see note) .....	(NA)	(X)	60.4	(NA)	(X)	35.2

Note: In 1987 Census of Manufactures, data for establishments of small single unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoffs used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1987 and 1982 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

<sup>1</sup>Data reported by all producers, not just those with shipments of \$100,000 or more.

<sup>2</sup>For some establishments, data have been estimated from central unit values which are based on quantity-value relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: \* 10 to 19 percent estimated; \*\* 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

<sup>3</sup>For 1987, product code 32721 36 is combined with product code 32721 98 to avoid disclosing data for individual companies.



Table 3. Materials Consumed by Kind: 1987 and 1982

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text.]

1987 material code	Material	1987		1982	
		Quantity <sup>1</sup>	Delivered cost (million dollars)	Quantity <sup>1</sup>	Delivered cost (million dollars)
	<b>INDUSTRY 3271, CONCRETE BLOCK AND BRICK</b>				
	Materials, parts, containers, and supplies -----	(X)	805.0	(X)	517.8
324101	Portland cement ----- 1,000 s tons..	**3 023.0	219.5	**1 819.3	108.0
144201	Sand and gravel <sup>2</sup> ----- do..	(S)	96.7	(S)	50.9
142011	Crushed or broken stone, including cement rock, limestone, etc. ----- do..	(S)	63.5	(S)	46.7
	Steel:				
331091	Wire strand and bars or rods, high strength, stress relieved ----- 1,000 s tons..	(S)	1.8	(S)	.9
331092	Welded wire concrete reinforcing mesh ----- do..	(S)	2.5	**6.2	1.8
331009	Concrete reinforcing bars ----- do..	(S)	7.5	(S)	1.1
327300	Ready-mixed concrete ----- mil cu yd..	(S)	6.6	**28.6	1.2
970099	All other materials and components, parts, containers, and supplies -----	(X)	152.8	(X)	80.1
971000	Materials, parts, containers, and supplies, n.s.k. <sup>3</sup> -----	(X)	254.1	(X)	227.2
	<b>INDUSTRY 3272, CONCRETE PRODUCTS, N.E.C.</b>				
	Materials, parts, containers, and supplies -----	(X)	2 023.8	(X)	1 343.7
324101	Portland cement ----- 1,000 s tons..	*5 634.3	398.3	*3 313.7	209.8
144201	Sand and gravel <sup>2</sup> ----- do..	**18 698.6	179.0	**14 546.2	87.6
142011	Crushed or broken stone, including cement rock, limestone, etc. ----- do..	(S)	59.3	(S)	31.9
	Steel:				
331091	Wire strand and bars or rods, high strength, stress relieved ----- 1,000 s tons..	(S)	132.2	(S)	97.2
331092	Welded wire concrete reinforcing mesh ----- do..	*448.5	93.0	**165.3	78.0
331009	Concrete reinforcing bars ----- do..	1 107.8	68.0	**138.0	51.1
327300	Ready-mixed concrete ----- mil cu yd..	(S)	57.5	(S)	32.0
970099	All other materials and components, parts, containers, and supplies -----	(X)	468.3	(X)	398.6
971000	Materials, parts, containers, and supplies, n.s.k. <sup>3</sup> -----	(X)	568.2	(X)	357.5
	<b>INDUSTRY 3273, READY-MIXED CONCRETE</b>				
	Materials, containers, and supplies -----	(X)	6 428.0	(X)	4 476.7
324101	Portland and blended cements ----- 1,000 s tons..	*44 758.5	1 951.5	*30 346.1	1 485.9
144201	Sand and gravel <sup>2</sup> ----- do..	**240 837.8	1 222.9	121 724.6	738.5
	Crushed or broken stone:				
142200	Limestone, including dolomite, cement rock, marl, travertine, and calcareous tufa ----- 1,000 s tons..	*35 378.2	251.9	*27 172.2	200.6
142300	Granite, including gneiss, syenite, and diorite ----- do..	(S)	35.2	(S)	24.4
142900	Other stone, including slate, marble, trap rock, sandstone, quartz, and miscellaneous types of stone ----- do..	**6 238.9	45.5	**3 341.2	21.2
329504	Lightweight aggregate, including vermiculite, perlite, expanded clays, shale, slag, and fly ash ----- do..	(S)	79.5	(S)	68.5
281001	Ready-mixed concrete chemical processing preparation and materials, including all chemical and air-entraining admixtures and silicon alumina ----- 1,000 gal..	(S)	97.2	(S)	51.3
970099	All other materials and components, parts, containers, and supplies -----	(X)	274.1	(X)	161.0
971000	Materials, containers, and supplies, n.s.k. <sup>3</sup> -----	(X)	2 470.9	(X)	1 725.3
	<b>INDUSTRY 3274, LIME</b>				
	Materials, parts, containers, and supplies -----	(X)	156.7	(X)	115.3
267420	Paper shipping sacks and multiwall bags ----- 1,000 s tons..	(S)	7.3	(S)	6.2
263112	Paperboard liners ----- do..	(NA)	(4)	(X)	(4)
320591	Refractories, clay or nonclay ----- do..	(S)	4.2	(S)	7.7
142011	Crushed or broken stone, including cement rock, limestone, etc. ----- do..	(S)	42.3	(S)	33.4
329511	Nonmetallic minerals and earths, ground or otherwise treated, including granulated slag and gypsum ----- do..	(X)	9.3	(S)	3.1
970099	All other materials and components, parts, containers, and supplies -----	(X)	474.7	(X)	461.6
971000	Materials, parts, containers, and supplies, n.s.k. <sup>3</sup> -----	(X)	18.9	(X)	3.3
	<b>INDUSTRY 3275, GYPSUM PRODUCTS</b>				
	Materials, containers, and supplies -----	(X)	1 062.6	(X)	579.6
267420	Paper shipping sacks and multiwall bags ----- 1,000 s tons..	(S)	6.2	(S)	12.8
263112	Paperboard liners ----- do..	*692.5	203.4	421.1	105.0
320591	Refractories, clay or nonclay ----- do..	9.9	4.7	3.3	.6
142011	Crushed or broken stone, including cement rock, limestone, etc. ----- do..	**2 442.0	40.5	1 194.5	17.5
324103	Cement clinker ----- do..	(NA)	(9)	(NA)	(NA)
329511	Nonmetallic minerals and earths, ground or otherwise treated, including granulated slag and gypsum ----- do..	(X)	199.6	(S)	135.6
970099	All other materials and components, parts, containers, and supplies -----	(X)	501.8	(X)	290.4
971000	Materials, containers, and supplies, n.s.k. <sup>3</sup> -----	(X)	106.4	(X)	17.7

See footnotes at end of table.

Table 3. **Materials Consumed by Kind: 1987 and 1982—Con.**

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1987 material code	Material	1987		1982	
		Quantity <sup>1</sup>	Delivered cost (million dollars)	Quantity <sup>1</sup>	Delivered cost (million dollars)
	<b>INDUSTRY 3281, CUT STONE AND STONE PRODUCTS</b>				
	Materials, containers, and supplies -----	(X)	294.2	(X)	198.2
141101	Rough blocks used to produce dressed stone ----- 1,000 s tons--	(S)	83.4	(S)	37.2
142101	Broken stone received for crushing, screening, or washing ----- do--	(S)	.8	(D)	( <sup>6</sup> )
329104	Abrasives and abrasive products -----	(X)	12.0	(X)	7.1
342301	Stonecutting tools and accessories, including blades -----	(X)	29.1	(X)	6.6
970099	All other materials and components, parts, containers, and supplies-----	(X)	46.7	(X)	<sup>6</sup> 32.6
971000	Materials, containers, and supplies, n.s.k. <sup>3</sup> -----	(X)	122.3	(X)	114.7

<sup>1</sup>For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: \* 10 to 19 percent estimated; \*\* 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

<sup>2</sup>Sand and gravel mined and consumed at same location are not included.

<sup>3</sup>Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

<sup>4</sup>For 1987 and 1982, material code 263112 was included with material code 970099.

<sup>5</sup>For 1987, material code 324103 is included with material code 970099.

<sup>6</sup>For 1982, material code 142101 was included with material code 970099.



# APPENDIX

## Scope and Coverage and Explanation of Terms

### GENERAL

The 1987 Census of Manufactures is the 32nd census of manufacturing establishments conducted in the United States. For 1987, it was conducted as part of the economic censuses, which included the censuses of mineral industries, construction industries, retail and wholesale trades, service industries, selected transportation activities, and minority-owned and women-owned businesses, under authority of title 13 of the United States Code. Title 13 specifies that an economic census be conducted every 5 years to cover years ending in 2 and 7.

### SCOPE AND COVERAGE

#### Establishment Basis of Reporting

The census of manufactures is conducted on an establishment basis. All manufacturing establishments with one paid employee or more at any time during the year are covered by the census of manufactures. Therefore, a company operating at more than one location is required to file a separate report for each location. This report excludes information for separately operated administrative offices, warehouses, garages, and other auxiliary units which service manufacturing establishments of the same company. Where these auxiliary operations are conducted at the same location as the manufacturing operation, they are usually included in the report for the operating manufacturing establishment.

#### Use of Administrative Records

From a universe of approximately 350,000 manufacturing establishments in the 1987 Census of Manufactures, approximately 150,000 small single-establishment companies were excused from filing reports. Selection of the small establishment nonmail cases was done on an industry-by-industry basis. A variable cutoff was used to determine those establishments for which administrative records were to be used in place of a census report. The cutoffs were selected so the administrative-record cases would account for approximately 3 percent or less of the value of shipments for the industry. These cutoffs were then adjusted so that all single-establishment companies with less than 5 employees were excluded from the mail canvass, while all establishments with more than 20 employees were included. Where establishments in the 5 to 20 employee size range were included in the mail canvass, an abbreviated census form was frequently used.

For these nonmail establishments, (and a small number of larger establishment whose reports were not received at the time the data were tabulated) data on employment, payroll, and receipts were obtained from administrative records of other government agencies rather than from census forms. The administrative-record information was then used in conjunction with industry averages to estimate the data for these establishments. The value of shipments and cost of materials were not distributed among specific products and materials but were included in the product and material "not specified by kind" (n.s.k.) categories.

### EXPLANATION OF TERMS

**Number of establishments and companies**—A separate report was required for each manufacturing establishment (plant) with one employee or more. An establishment is defined as a single physical location where manufacturing is performed. A company, on the other hand, is defined as a business organization consisting of one establishment or more under common ownership or control.

**All employees**—Includes all full-time and part-time employees on the payrolls at any time during the year. Included are all persons on paid sick leave, paid holidays, and paid vacations. Officers of corporations are included as employees; proprietors and partners of unincorporated firms are excluded. The "all employees" number is the average number of production workers plus the number of other employees in mid-March. The number of production workers is the average of those for midmonth payroll periods of March, May, August, and November.

**Production workers**—Includes workers up through the working-supervisor level engaged in fabricating, processing, assembling, inspecting, receiving, packing, warehousing, shipping (but not delivering), maintenance, repair, janitorial, guard services, product development, auxiliary production for plant's own use (e.g., power-plant), recordkeeping, and other closely associated services. Truckdrivers delivering ready-mixed concrete are also included in production workers.

**Other employees**—Includes nonproduction personnel, including those engaged in the following activities: supervision above working-supervisor level, sales (including driver/salespersons), sales delivery (truckdrivers and helpers), advertising, credit collection, installation and

servicing of own product, clerical and routine office functions, executive, purchasing, finance, legal, personnel (including cafeteria, etc.), professional, and technical employees.

**Payroll**—Includes the gross earnings for the “employees” defined above, such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, and compensation in kind, prior to such deductions as employees’ Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. Respondents were told that in reporting they could follow the definition of payrolls used for calculating the Federal withholding tax.

**Production-worker hours**—Covers hours worked or paid for at the plant, including actual overtime hours (not straight-time equivalent hours). It excludes hours paid for vacations, holidays, or sick leave when the employee was not at the plant.

**Cost of materials**—Refers to direct charges actually paid or payable for items consumed or put into production during the year, including freight charges and other direct charges incurred by the establishment in acquiring these materials. It includes the cost of materials or fuels consumed, regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year.

The important components of this cost item are (a) all raw materials, semifinished goods, parts, containers, scrap, and supplies put into production or used as operating supplies and for repair and maintenance during the year; (b) electric energy purchased; (c) fuels consumed for heat, power, or generating electricity; (d) work done by others on materials or parts furnished by manufacturing establishments (contract work); and (e) products bought and resold in the same condition.

**Specific materials consumed (table 3)**—In addition to the total cost of materials which every establishment was required to report, information was also collected for most manufacturing industries on the consumption of major materials used in manufacturing. These inquiries were restricted to those materials which were important parts of the cost of production in a particular industry and for which cost information was available from manufacturers’ records. Establishments consuming less than a specified amount (usually \$10,000) of a specific material were not requested to report consumption of that material separately. Also, the cost of materials for the small establishments for which administrative records were used was estimated as “not specified by kind” (n.s.k.).

**Value of shipments and other receipts**—Generally refers to received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all

miscellaneous receipts such as receipts for contract work performed for others, installation and repair receipts, sale of scrap, and sale of products bought and resold without further processing. Included are all items made by or for the establishment from materials owned by it whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In a few industries, the value of production or value of work completed is used instead of value of shipments. These industries are identified in the introduction and are footnoted in table 1.

In the case of multiunit companies, the manufacturer was requested to report the value of products transferred to other establishments of the same company at full economic or commercial value, that is, including not only the direct costs of production but also a reasonable proportion of “all other costs” (including company overhead and profit).

**Shipments or production of individual products (table 2)**—In the 1987 census, detailed shipment information was collected for approximately 11,000 individual products. These products are identified by a seven-digit code and are grouped into approximately 1,500 classes of products, which in turn are primary to 459 four-digit industries. Data at the five-digit product-class level have been collected each year as part of the annual survey of manufactures. Information at the seven-digit level, collected for many industries in the current industrial reports program, is not included in this table.

**Value added by manufacture**—This measure of manufacturing activity is derived by subtracting the cost of materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured plus receipts for services rendered. The result of this calculation is then adjusted by the addition of value added by merchandising operations (that is, the difference between the sales value and cost of merchandise sold without further manufacturing, processing, or assembly) plus the net change in finished goods and work-in-process inventories between the beginning and end of the year.

For those industries where value of production is collected instead of value of shipments (see footnote in table 1), value added is adjusted only for the change in work-in-process inventories between the beginning and end of the year. For those industries where value of work done is collected, the value added does not include an adjustment for the change in finished goods or work-in-process inventories.

Value added avoids the duplication in the figure for value of shipments which results from the use of products of some establishments as materials by others. Value



added is considered to be the best value measure available for comparing the relative economic importance of manufacturing among industries and geographic areas.

**Expenditures for new plant and equipment**—Establishments in operation and any known plants under construction were asked to report their expenditures for (a) permanent additions and major alterations to manufacturing establishments and (b) new machinery and equipment used for replacement and additions to plant capacity if they are of the type for which depreciation accounts are ordinarily maintained.

These totals exclude expenditures for used plant and equipment, expenditures for land, and cost of maintenance and repairs charged as current operating expenses. Data for used plant and equipment will be published in the final industry bulletin.

**End-of-year inventories**—Comprised of (a) finished products; (b) work-in-process; and (c) materials, supplies, fuels, etc. Beginning in 1982, respondents were asked to report their inventories at (the lower of) cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method.

Therefore, 1982 through 1987 data for inventories are not strictly comparable to prior-year data.

**Specialization and coverage ratios**—An establishment is classified in a particular industry if its shipments of primary products of the industry exceed in value its shipments of the products of any other single industry. An establishments' shipments include those products assigned to an industry (primary products), those considered primary to other industries (secondary products), and receipts for miscellaneous activities (merchandising, contract work, resales, etc.). The following ratios have been developed to measure the relationship of primary product shipments to the data on shipments for the industry shown in table 1 and data on product shipments shown in table 2.

**Specialization ratio**—Represents the ratio of primary product shipments to total product shipments (primary and secondary, excluding miscellaneous receipts) for the establishments classified in the industry.

**Coverage ratio**—Represents the ratio of primary products shipped by the establishments classified in the industry to the total shipments of such products that are shipped by all manufacturing establishments, wherever classified.













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